

TI-25320

Patent Amendment

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Park, et al.	Group Art Unit: 2814
Application No.: 09/173,129	Examiner: Peralta, G.
Filed: 10/15/1998	Tech Grp Fax: TC 2800 BF: 703-872-9318
Title: Selective Oxidation for Semiconductor Device Fabrication	I hereby certify that this correspondence is being <input type="checkbox"/> deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to Commissioner for Patents, Washington, D.C. 20231, or <input checked="" type="checkbox"/> facsimile transmitted to the U.S. Patent and Trademark Office, on <u>3/5/2003</u>
Attorney Docket No.: TI-25320	<u>3/5/2003</u> Name <u>Don Yentel</u> Date

Commissioner for Patents  
Washington, D.C. 20231

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MAR 5 2003

RESPONSE UNDER 37 CFR 1.111

TECHNOLOGY CENTER 2800

Dear Sir:

In response to the Office Action of November 5, 2002, please amend this application as follows:

In the claims:

Please substitute each of the following claims for the pending claim of the same number:

1 (Five Times Amended). A method of fabricating, in a semiconductor processing chamber, an electrical device formed in a semiconductor substrate, said method comprising:  
forming an insulating layer over said semiconductor substrate;

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forming a silicon-containing structure on said insulating layer;  
forming a conductive structure on said silicon-containing structure; and  
oxidizing a portion of said insulating layer and said silicon-containing structure while leaving said conductive structure substantially unoxidized by introducing O<sub>2</sub> and H<sub>2</sub> in the semiconductor processing chamber in an explosive reaction, such that the reaction between said O<sub>2</sub> and H<sub>2</sub> does not increase the pressure in the processing chamber beyond a predetermined safe level.

9 (Five Times Amended). A method of oxidizing, in a semiconductor processing chamber, a first feature while leaving a second feature substantially unoxidized, said method comprised of subjecting said first and second features to O<sub>2</sub> and H<sub>2</sub> in an explosive reaction in said semiconductor processing chamber, such that the reaction between said O<sub>2</sub> and H<sub>2</sub> does not increase the pressure in the processing chamber beyond a predetermined safe level.

16 (Five Times Amended). A method of fabricating, in a semiconductor processing chamber, a capacitor having a dielectric between a bottom electrode and a top electrode and situated over a semiconductor substrate, said method comprising the steps of:

providing said bottom electrode over said semiconductor substrate;  
providing a dielectric material over said bottom electrode; and  
subjecting said bottom electrode and said dielectric material to an explosive reaction between O<sub>2</sub> and H<sub>2</sub> in semiconductor processing chamber, wherein said dielectric material is oxidized and said bottom electrode remains substantially unoxidized, such that the reaction between said O<sub>2</sub> and H<sub>2</sub> does not increase the pressure in the processing chamber beyond a predetermined safe level.

26 (Four Times Amended). A method of fabricating an electrical device formed in a semiconductor substrate, said method comprising:

forming an insulating layer over said semiconductor substrate;

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forming a silicon-containing structure on said insulating layer;  
forming a conductive structure on said silicon-containing structure; and  
oxidizing a portion of said insulating layer and said silicon-containing structure  
while leaving said conductive structure substantially unoxidized by introducing an  
oxygen-containing gas selected from the group consisting of O<sub>2</sub>, N<sub>2</sub>O, NO or CO<sub>2</sub> and a  
separate hydrogen-containing gas in a semiconductor processing chamber housing said  
insulating layer, said silicon-containing structure and said conductive structure, such  
that an explosive reaction between said the hydrogen-containing gas and the oxygen  
containing gas does not increase the pressure in the processing chamber beyond a  
predetermined safe level.

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